

CLAIMS

1. A bimetallic catalyst for the treatment of waters containing nitrates, comprising a support and at least one noble metal and at least one non-noble metal, characterized in that the support, in elemental and anhydrous form, has a composition corresponding to the formula



wherein

X is at least one noble metal;
Y is at least one non-noble metal;
Mg is magnesium;
Al is aluminium.

2. A catalyst in accordance with claim 1, characterized in that Mg and Al form a hydrotalcite structure.

3. A catalyst in accordance with claim 1, characterized in that the noble metal is selected from among Pd, Pt, Ru, Ir and Rh.

4. A catalyst in accordance with claim 1, characterized in that the noble metal is present in the form of noble metal oxide, in a proportion referring to the total weight of the catalyst of 0.1 to 30 % by weight, preferably from 0.5 to 15 % by weight.

5. A catalyst in accordance with claim 1, characterized in that the noble metal is Pd.

6. A catalyst in accordance with claim 1, characterized in that the non-noble metal is selected from among Cu, Sn, Zn, In, Ni, Ag, Fe or Co.

7. A catalyst in accordance with claim 1, characterized in that the non-noble metal is present in the form of non-noble metal oxide, in a proportion referring to the total weight of the catalyst of 0.5 to 10% by weight.

8. A catalyst in accordance with claim 1, characterized in that the non-noble metal is Cu.

9. A catalyst in accordance with claim 2, characterized in that the metals are incorporated into the hydrotalcite structure by impregnation.

10. A catalyst in accordance with claim 2, characterized in that the metals have been incorporated into the hydrotalcite structure during the synthesis stage of the hydrotalcite.

11. A catalyst in accordance with claim 2, characterized in that at least one non-noble metal is incorporated into the hydrotalcite structure during the synthesis stage of the hydrotalcite and in that at least one noble metal is incorporated by impregnation in a stage subsequent to the synthesis stage.

12. A catalyst in accordance with claim 1, characterized in that the Mg and Al are present in the form of aluminium and magnesium oxides starting from a precursor of hydrotalcite by calcination in air at temperatures between 350 and 800 °C, for a period of between 1 and 20 hours.

13. A catalyst in accordance with claim 12, characterized in that at least one noble metal and at least one non-noble metal is incorporated into the

structure of the hydrotalcite precursor during the synthesis stage of the hydrotalcite.

14. A catalyst in accordance with claim 13, characterized in that at least one non-noble metal or metals are incorporated into the structure of the precursor during the synthesis stage of the hydrotalcite in order to form oxides of Mg/Al/non-noble metal, and in that at least one noble metal has been incorporated by impregnation in a stage subsequent to the synthesis stage.

15. A process for treating waters to eliminate nitrates present in liquid phase therein, said process comprising treating said liquid phase with a catalyst in accordance with claim 1.

16. A process in accordance with claim 15, characterized in that the reducing agent is selected among hydrogen, formic acid, hydrocarbons and combinations thereof.